

(19) World Intellectual Property Organization  
International Bureau



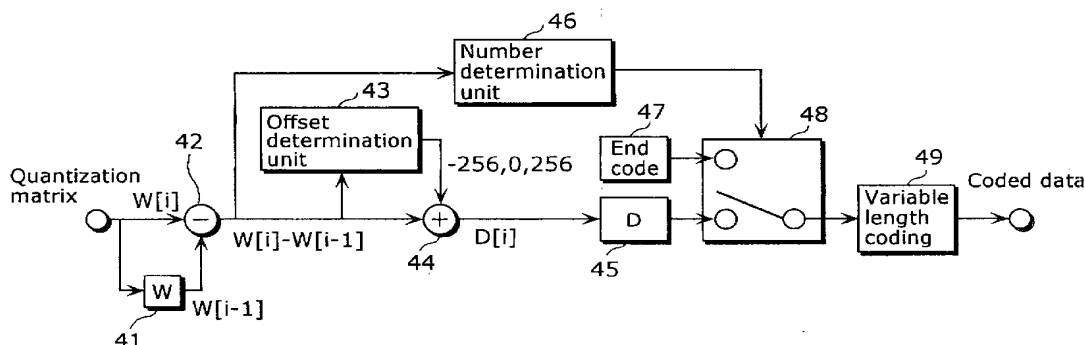
(43) International Publication Date  
11 August 2005 (11.08.2005)

PCT

(10) International Publication Number  
**WO 2005/072312 A3**

- (51) International Patent Classification<sup>7</sup>: **G06K 9/36**, 9/46, H04N 7/12, 11/02, 11/04
- (74) Agent: **PRICE, Joseph, W.**; Snell & Wilmer LLP, 600 Anton Boulevard, Suite 1400, Costa Mesa, CA 92626 (US).
- (21) International Application Number: PCT/US2005/002227
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 19 January 2005 (19.01.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/538,065 20 January 2004 (20.01.2004) US  
60/561,351 12 April 2004 (12.04.2004) US
- (71) Applicant (for all designated States except US): **MAT-SUSHITA ELECTRIC INDUSTRIAL CO., LTD.** [JP/JP]; 1006 Oaza Kadoma, Kadoma-shi, Osaka 571-8501 (JP).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **KADONO, Shinya** [JP/JP]; 8-3-2-203, Atagoyama, Nishinomiya-shi, 662-0871 Hyogo (JP). **KASHIWAGI, Yoshiichiro** [JP/US]; 179 West Palm Drive, Arcadia, CA 91007 (US). **LU, Jiuhuai** [US/US]; 4200 Cartesian Circle, Palos Verdes Peninsula, CA 90274 (US). **LIM, Chong, Soon** [SG/SG]; Blk 842, Sims Ave., #07-760, 400842 Singapore (SG). **TAO, Chen** [US/US]; 25 Gibson Street, Piscataway, NJ 08854 (US).
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— with international search report
- (88) Date of publication of the international search report: 19 January 2006
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PICTURE CODING METHOD, PICTURE DECODING METHOD, PICTURE CODING APPARATUS, PICTURE DECODING APPARATUS, AND PROGRAM THEREOF



(57) Abstract: The picture coding method according to the present invention is a picture coding method for coding a picture on a block-by-block basis through orthogonal transformation (Fig. 3, T) and quantization (Fig. 3, Q), and coding a quantization matrix (Fig. 2) that is used to derive quantization steps for frequencies of orthogonal transformation coefficients, the method comprising: calculating a difference value between each of frequency components included in the quantization matrix (Fig. 2) and a predetermined value corresponding to said each of the frequency components; and coding the difference value into a variable length code (Fig. 3, VLC), wherein a code length of the variable length code is shorter as the difference value is smaller, or equal to a code length of a neighboring difference value of said difference value (Fig. 4).